The EPA's Environmental Technology Verification Program ETV

April 2002

VERIFYING WATER QUALITY PROTECTION TECHNOLOGIES through the Environmental Technology Verification (ETV) Program

USEPA and NSF International are partners in the ETV Water Quality Protection Center, a program to verify technologies that protect ground and surface waters from contamination. Under the Center, commercial-ready technologies are evaluated by a third party organization, following technically sound test procedures, appropriate QA/QC, and a managed process, to provide purchasers, specifiers and permitters with credible and relevant data.

Verification protocols are developed for specific technology areas following an open process with broad-based stakeholder input. The protocols then serve as templates for developing test plans for the evaluation of individual technologies at specific locations. Verification reports detailing the results of the technology evaluations are made publically available to assist in marketing, purchase and permitting of the technologies. Verification statements, which are executive summaries of each verification test, are also provided.

Technologies addressed by the Center fall into two main categories:

Source Water Protection Technologies
Wet Weather Flow Technologies

In the **Source Water Protection** area, there are four main technology categories: decentralized wastewater treatment, infrastructure rehabilitation, watershed protection, and ballast water treatment. With respect to decentralized wastewater treatment, two protocols have been developed, one for evaluating residential wastewater nutrient reduction technologies and another for wastewater treatment technologies. The wastewater treatment technologies protocol covers applications such as small residential communities, restaurants and other commercial applications, and light industrial applications. Both protocols specify a year of testing, with residential nutrient reduction technologies being evaluated at controlled test facilities and wastewater treatment technologies evaluated at actual installations. Verification testing is underway in both technology areas at locations across the United States and Canada. A third protocol, for disinfection systems, is under development.

Protocol/test plan development is currently underway in the following infrastructure rehabilitation areas: coatings and grouts for sewer system rehabilitation, pipe liner materials, and pipe bursting technologies. Testing of infrastructure rehabilitation technologies is expected to begin in 2002.

In the watershed protection category, test plans have been developed for UV disinfection technologies for secondary effluent and reuse applications, in-drain treatment and solids separation technologies for flushed swine waste, with testing to begin in all three technology areas in 2002. In addition, a protocol addressing mercury amalgam removal technologies for dental offices was developed, and testing of one such technology has been completed.

Ballast water treatment is the most recent technology category to be addressed under the scope of source water protection. A protocol for evaluating ballast water treatment technologies is being developed

cooperatively between EPA/ETV and the U.S. Coast Guard to address aquatic nuisance species entering U.S. waters in ship ballast water tanks.

In the **Wet Weather Flow** area, there are five main technology category areas designated, for which seven protocols have been finalized: Stormwater Treatment Devices, High-Rate Disinfection (Induction Mixers and UV Disinfection), High-Rate Separation (with and without chemical addition), Flowmeters, and Urban Runoff Models.

Under these protocols, 23 three vendors have applied for verification testing of a total of 28 units. These technologies are at different stages in the verification process.

Testing has been completed on four units: two induction mixers and two flowmeters. Verification reports for these units have been completed and are presently being reviewed.

Testing is currently underway for the first UV disinfection units, one high-rate separation unit without chemical enhancement, one urban runoff model, and one stormwater treatment device. UV disinfection testing has been underway since early 2002 at the Parsippany-Troy Hills Wastewater Treatment Plant in New Jersey and should be completed this summer. Three additional UV units are scheduled for testing immediately following. Verification testing of the high-rate separation device is taking place in Louisville, Kentucky, and is scheduled for completion in the summer of 2002. Urban runoff model testing currently underway should be completed in mid-2002. Testing for one stormwater unit has been underway since the fall of 2001 in Green Bay, Wisconsin. Five additional stormwater units are currently being installed for testing in Griffin, Georgia, and three additional units are undergoing installation in St. Clair Shores, Michigan.

For more information on ETV Water Quality Protection Center technology verification, including updates on testing activities, final verification reports and statements, meeting announcements, and a current list of vendors participating in the program, please refer to the NSF and EPA ETV Web Sites.

Contacts:

EPA Web Site http://www.epa.gov/etv
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